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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,670

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Hyeok Deok Kim

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EXAMINER

DESAI, NAISHADH N

ART UNIT

PAPER NUMBER

2834

NOTIFICATION DATE

DELIVERY MODE

09/28/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/562,670	<b>Applicant(s)</b> KIM ET AL.	
	<b>Examiner</b> NAISHADH N. DESAI	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-15 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/18/2009</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 05/18/2009 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Drawings***

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Element 66 in Figure 9 (examiner believes that it is a typographical error and that it should indicate element 6b (for the rear bearing). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

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informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

4. Claims 9,10 and 16,17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claim 18 is objected to because of the following informalities: applicant claims "...and connect..." it is believed that applicant mean to claim "and connecting" to make it grammatically correct. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1- 8, 11-15,18-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kim et al (US 6460382).

6. Regarding claim 1, Kim et al teaches:

A direct drive motor in a washing machine comprising (abstract):

a stator (Fig 2b,14) having a winding portion with coils wound thereon (Fig 2b,142);

a rotor (Fig 2b,13) fixedly connected to a washing shaft (Fig 2b,4) for direct drive of a drum (Fig 2b,3), the rotor (Fig 2b,13) having a sidewall (Fig 5,13b), and a rear wall (Fig 2b,13a) with a pass through hole (Fig 2b,131) at a center; and

a connector (Fig 7,16) of a material having a vibration mode different from the washing shaft (Fig 2b,4, Col 3 ll 8-13), insert molded (injection molded, taught in Col 7 ll 34-40, inherently resulting in claimed structure) at the center of the rear wall of the rotor (Fig 2b,13a, Fig 5,13a,131) to form one body with the rotor (Fig 2B,13,16), and fixedly connected to the washing shaft to connect the rotor to the washing shaft, and support the washing shaft (Col 3 ll 8-13).

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Kim et al teaches the device as claimed above, including the use of injection molding (Col 7 l 35) the connector. The structure is inherently taught by Kim et al, regardless of the exact method of producing it.

Alternatively, in the case applicant disagrees with the 102(b) rejection above, lacking any stated criticality it would have been obvious design choice to a person having ordinary skills in the art at the time the invention was made to make the connector and rotor to form one body by insert molding instead of injection molding. The motivation to do so is that it would reduce complexity and assembly time, parts, cost and noise (Col 2 ll 3-6).

Note that a product by process claim is directed to the product per se, no matter how actually made, *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessmann*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wertheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); and *In re Marosi et al*, 218 USPQ 289, all of which make it clear that it is the patentability of the final product per se which must be determined in a product by process claim, and not the patentability of the process, and that an old or obvious product by a new method is not patentable as a product, whether claimed in product by process claims or not. Note that applicant has the burden of proof in such cases, as the above case laws make clear.

Therefore, the phrase "the connector is insert molded" is thus non-limiting.

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7. Regarding claim 2, Kim et al (Col 7 ll 15-20, Fig 5) teaches that the rotor is constructed of steel plate by pressing to form the side wall 13b and the rear wall 13a as one body.

8. Regarding claim 3, Kim et al teaches that the pass through hole (Fig 5,131) at a center of the rear wall (Fig 2B,13a) of the rotor (Fig 2B,13) is formed at a center of a hub (Fig 5,132) which is a portion projected in a stator side (Fig 2B,14,132) or in a direction opposite thereto with respect to neighboring surface.

9. Regarding claim 4, Kim et al teaches that the washing shaft is formed of metal (Col 2 ll 54-56 wherein the use of brass implies that the shaft must be made of metal to avoid corrosion), and the connector is formed of resin which insulates between the washing shaft and the rotor (Col 3 ll 8-13).

10. Regarding claim 5, Kim et al teaches that the connector (Fig 7,16) includes a serration (Fig 7,164) on an inside circumferential surface having a shape in conformity with a shape of a serration (Fig 2B,400) at a rear end portion of the washing shaft (Fig 2B,4).

11. Regarding claim 6, Kim et al teaches that the connector (Fig 7,16) further includes reinforcing ribs (Fig 7,161) for reinforcing strength of the connector.

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12. Regarding claim 7, Kim et al teaches that the rotor includes at least one communication hole (Fig 5,137) in a neighborhood of the pass through hole (Fig 5,131) for enhancing bonding force between the connector (Fig 5,16) of resin and the rotor at the time of insert molding of the connector (the hole provided by Kim et al can be used for many things including at the time of insert molding of the connector).

13. Regarding claim 8, Kim et al teaches that the connector (Fig 2B,16) is insert molded in the rotor such that the connector covers an inside of the pass through hole (Fig 2B,131) and front and rear surfaces of neighborhood of the pass through hole (Fig 2b,131) of the rotor.

14. Regarding claim 11, Kim et al teaches:

A direct drive motor in a washing machine comprising (abstract):

a stator (Fig 2b,14) having a winding portion with coils wound thereon (Fig 2b,142);

a rotor (Fig 2b,13) fixedly connected to a washing shaft (Fig 2b,4) for direct drive of a drum (Fig 2b,3), the rotor (Fig 2b,13) having a sidewall (Fig 5,13b), and a rear wall (Fig 2b,13a) formed as one body by pressing steel plate (Col 7 ll 15-20, Fig 5), with a pass through hole (Fig 5,131) at a center of the rear wall (Fig 5,13a); and

a connector of resin insert molded (Col 7 ll 34-40) such that the connector is bonded on inner, and outer sides of the rear wall 13a of the rotor including communication holes (Fig 2b,13a, Fig 5,13a,131,137) therein to form one body with the



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rotor (Fig 2B,13,16), and fixedly connected to the washing shaft to connect the rotor to the washing shaft, and support the washing shaft (Col 3 ll 8-13).

Alternatively, in the case applicant disagrees with the 102(b) rejection above, lacking any stated criticality it would have been obvious design choice to a person having ordinary skills in the art at the time the invention was made to make the connector and rotor to form one body by insert molding instead of injection molding. The motivation to do so is that it would reduce complexity and assembly time, parts, cost and noise (Col 2 ll 3-6).

15. Regarding claim 12, Kim et al teaches that the washing shaft is formed of metal (Col 2 ll 54-56 wherein the use of brass implies that the shaft must be made of metal to avoid corrosion), and the connector is formed of resin which insulates between the washing shaft and the rotor (Col 3 ll 8-13).

16. Regarding claim 13, Kim et al teaches that the connector (Fig 7,16) includes a serration (Fig 7,164) on an inside circumferential surface having a shape in conformity with a shape of a serration (Fig 2B,400) at a rear end portion of the washing shaft (Fig 2B,4).

17. Regarding claim 14, Kim et al teaches that the connector (Fig 7,16) further includes reinforcing ribs (Fig 7,161) for reinforcing strength of the connector.

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18. Regarding claim 15, Kim et al teaches that the rotor includes at least one communication hole (Fig 5,137) in a neighborhood of the pass through hole (Fig 5,131) for enhancing bonding force between the connector (Fig 5,16) of resin and the rotor at the time of insert molding of the connector (the hole provided by Kim et al can be used for many things including at the time of insert molding of the connector).

19. Regarding claim 18, Kim et al teaches:

A direct drive motor in a washing machine comprising (abstract):

a stator (Fig 2b,14) having a winding portion with coils wound thereon (Fig 2b,142);

a rotor (Fig 2b,13) of magnetic metal (Col 7 l 15) fixedly connected to a washing shaft of metal (Fig 2b,4) for direct drive of a drum (Fig 2b,3), the rotor (Fig 2b,13) having a sidewall (Fig 5,13b), and a rear wall (Fig 2b,13a), with a pass through hole at a center (Fig 5,131); and

a connector of resin for insulating between the washing shaft and the rotor, insert molded (Col 7 ll 34-40) at the center of the rear wall 13a of the rotor to form one body with the rotor (Fig 2B,13,16), and connect the washing shaft to the rotor (Col 3 ll 8-13).

Alternatively, in the case applicant disagrees with the 102(b) rejection above, lacking any stated criticality it would have been obvious design choice to a person having ordinary skills in the art at the time the invention was made to make the connector and rotor to form one body by insert molding instead of injection molding. The

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motivation to do so is that it would reduce complexity and assembly time, parts, cost and noise (Col 2 ll 3-6).

20. Regarding claim 19, Kim et al teaches that the rotor includes at least one communication hole (Fig 5,137) in a neighborhood of the pass through hole (Fig 5,131) for enhancing bonding force between the connector (Fig 5,16) of resin and the rotor at the time of insert molding of the connector (the hole provided by Kim et al can be used for many things including at the time of insert molding of the connector).

21. Regarding claim 20, Kim et al teaches that the connector (Fig 2B,16) is insert molded in the rotor such that the connector covers an inside of the pass through hole (Fig 2B,131) and front and rear surfaces of neighborhood of the pass through hole (Fig 2b,131) of the rotor.

### ***Conclusion***

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for details.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAISHADH N. DESAI whose telephone number is (571)270-3038. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached on (571) 272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quyen Leung/  
Supervisory Patent Examiner, Art Unit 2834

NND